

(No Model.)

J. J. BERRIGAN.

LAWN MOWER.

No. 273,705.

Patented Mar. 13, 1883.

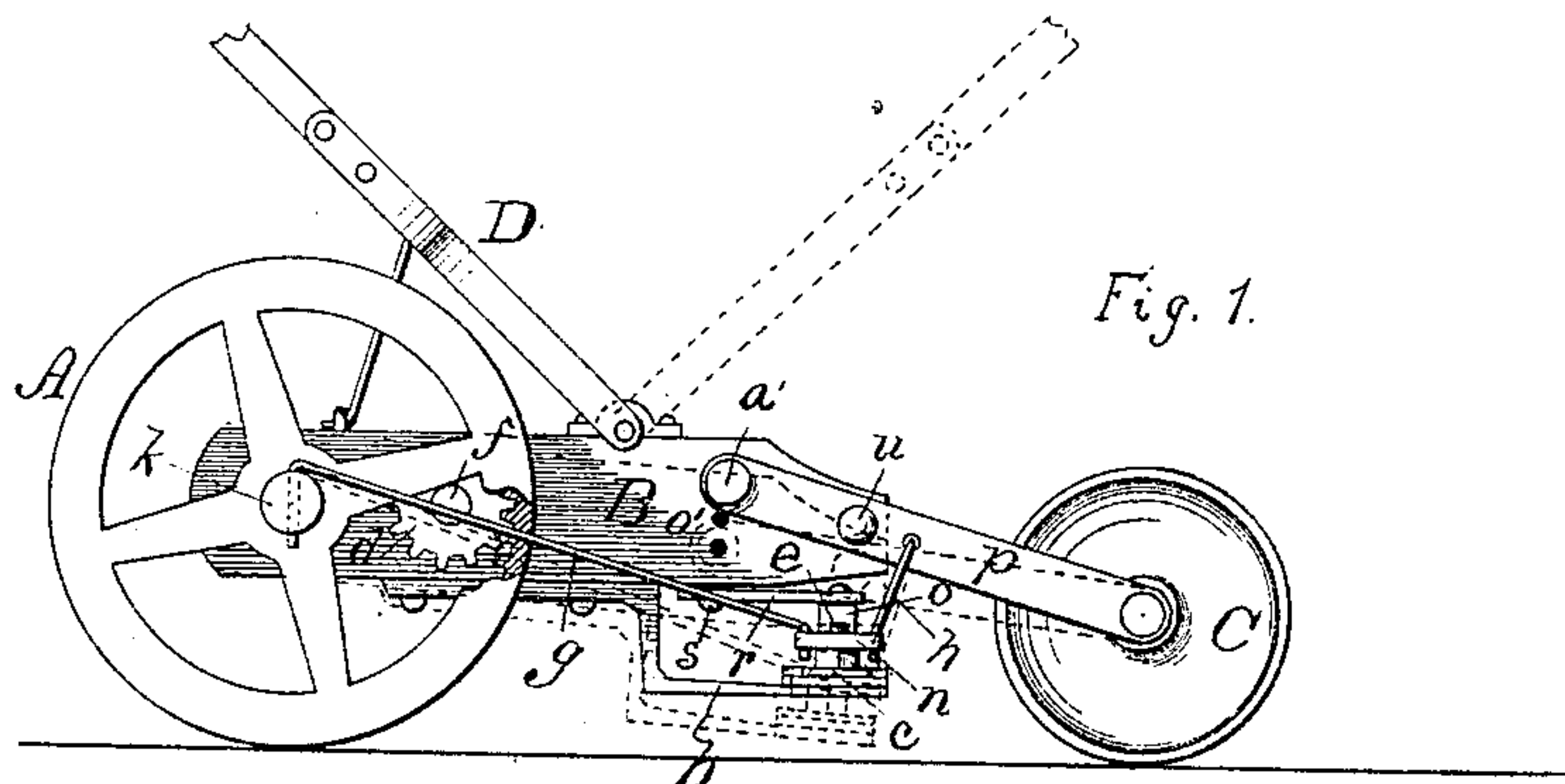


Fig. 1.

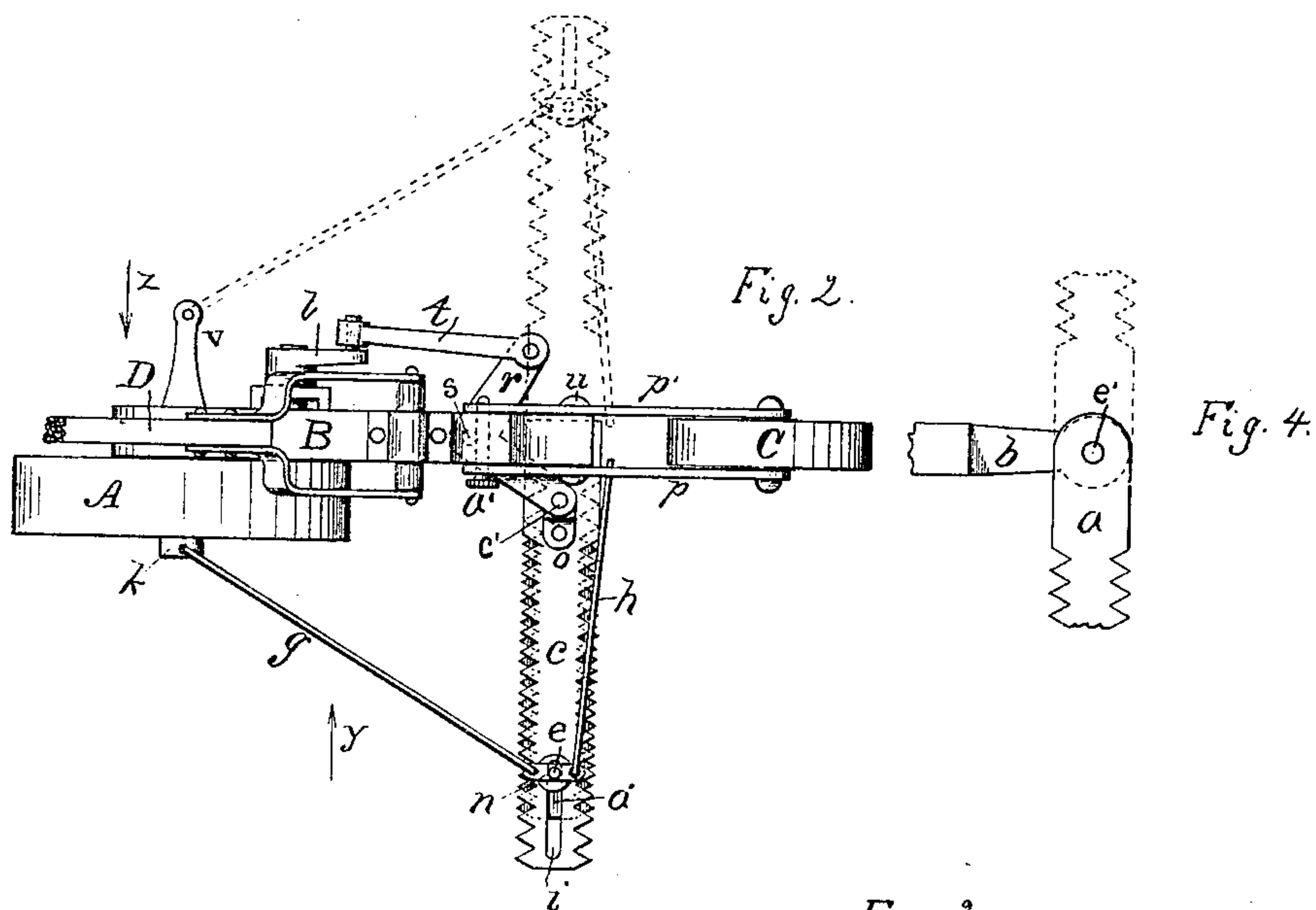


Fig. 2.

Fig. 4.

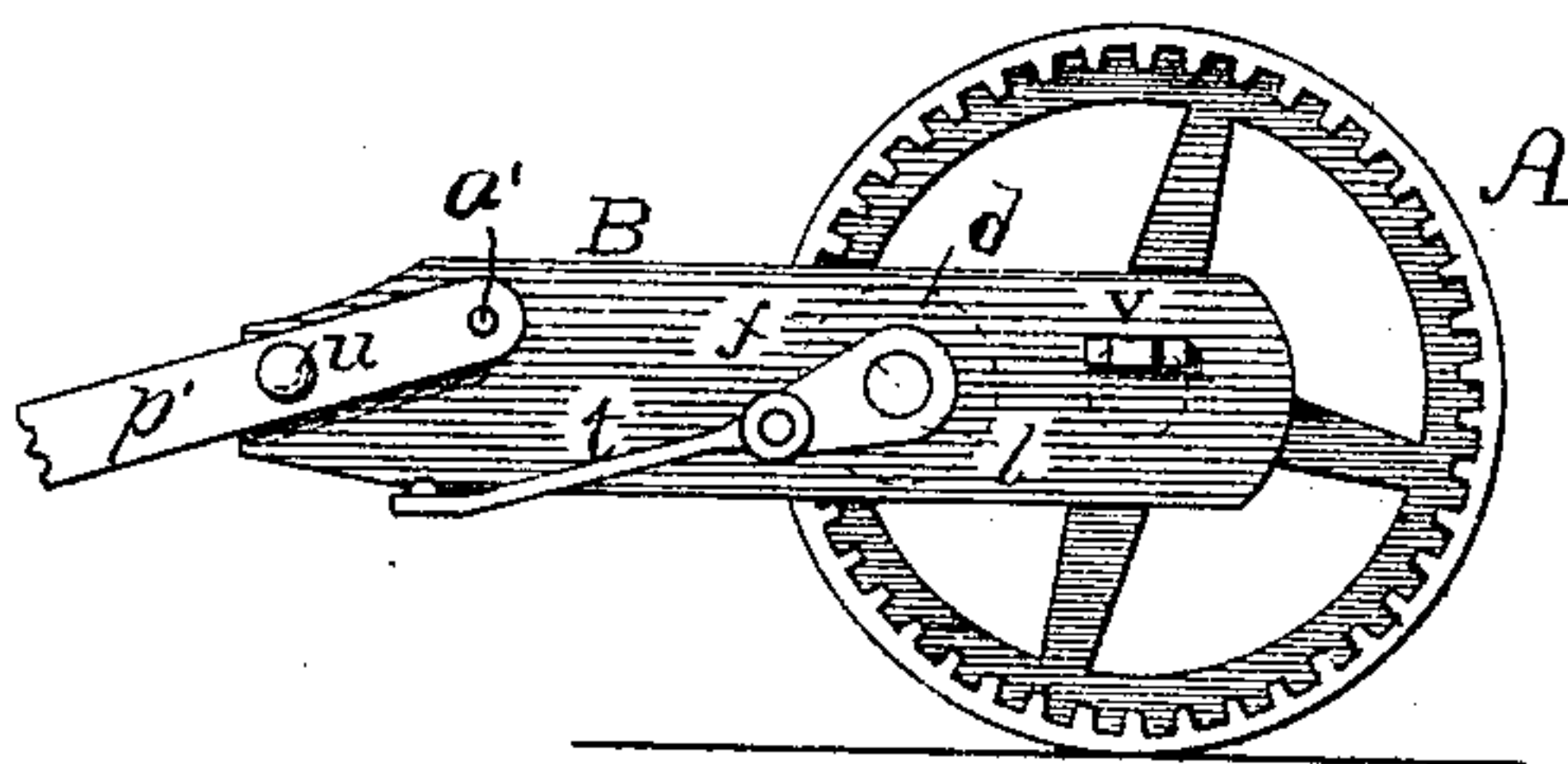


Fig. 3.

Attest:

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UNITED STATES PATENT OFFICE.

JOHN J. BERRIGAN, OF AVON, NEW YORK.

LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 273,705, dated March 13, 1883.

Application filed October 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. BERRIGAN, of Avon, in the county of Livingston and State of New York, have invented a new and useful Improvement in Lawn-Mowers, which improvement is fully set forth in the following specification and accompanying drawings.

The object of my invention is to produce a lawn-mower generally similar to the pattern of lawn-mowers in common use, but which shall have its cutting device attached to the body of the machine in such a manner that it may be turned from one side of said body to the opposite side, so as to be used as a right or left hand mower at pleasure, and to further provide the said cutting device with knives on both its edges, so that the mower may be moved or run either way—backward or forward—while cutting grass, the propelling-handle being made reversible for the purpose.

In the drawings, Figure 1 is a side elevation of my improved lawn-mower, viewed as indicated by the arrow *y* in Fig. 2; Fig. 2, a plan of the same, showing the cutting-bar in two positions or on each side of the body; Fig. 3, a side elevation of a portion of the machine, viewed as indicated by the arrow *z* in Fig. 2; and Fig. 4, a detached view, showing more clearly the pivot-joint of the finger-bar upon the supporting-arm.

Referring to the parts, A is the driving-wheel, of common form; B, the body or frame; C, a ground-wheel on the opposite side of the cutting-bar from the driving-wheel, and D the propelling-handle. The end of the machine opposite that upheld by the driving-wheel is supported by the ground-wheel C, secured to the frame B by means of bars *p p'*.

b is a supporting-arm secured to the under side of the frame B, and, reaching out, holds the movable finger-bar *a*, the latter extending outward at right angles from the frame, upon which finger-bar rests the knife-bar *c*, in the usual manner. The outer end of the finger-bar is supported horizontally by means of braces *g* and *h*, reaching, respectively, from the fixed shaft *k* of the driving-wheel, and a bar, *p*, supporting the wheel C. These braces are each attached to a cross-yoke, *n*, which is rigidly secured to the finger-bar by means of a stud, *e*, passing down through a slot, *i*, in the knife-bar.

The driving-wheel contains internal cogs, which engage the teeth of a pinion, *d*, mounted upon a shaft, *f*, extending horizontally through the frame B. At the other end of said shaft a crank, *l*, is secured, the pin of which is connected by means of a pitman, *t*, to a bell-crank, *r*, secured to the under side of the frame by a bolt, *s*. The other end of the bell-crank is connected to the knife-bar *c* by means of a pin, *o*, by means of which the knife-bar is given a longitudinal reciprocating motion when the pinion is rotated by the driving-wheel.

The knife-bar is designed to slide upon the finger-bar *a* in or along some suitable guides—as, for instance, along the stud *e*, secured to the finger-bar, the slot *i* in the knife-bar allowing longitudinal motion to the latter. A similar stud and slot (not shown) are provided at the other end or heel of the knife-bar under the frame.

The finger-bar *a* has teeth alike on both its edges, and the knife-bar is provided with knives on both edges, so that the mower will operate as well if propelled in either direction—that is, if it be propelled with the driving-wheel ahead or in the rear. The finger-bar is also attached to the other parts of the machine, so that it, with the superincumbent knife-bar, may be reversed or swung around horizontally to the opposite side of the body, as shown in dotted lines in Fig. 2.

The mower thus constructed is capable of cutting on either side, at the pleasure of the operator, or in either direction.

Fig. 4 shows more clearly the construction of parts permitting the swivel motion of the finger-bar upon the end of the supporting-arm *b*, by means of which said bar may be swung around from side to side or reversed, as stated. To swing the finger-bar to the opposite side of the frame or to the position shown in dotted lines, the pin *e'* of the bell-crank *r* is brought directly over the pin *e'* of the supporting-arm *b*, and the braces *g* and *h* detached from their respective fastenings at *k* and *p*. When the finger-bar is brought to this position the said brace *h* is attached to the bar *p'*, holding the wheel C similarly as it was when attached to the bar *p* when on the other side, and the brace *g* is attached to the stud *v*, as shown. The stud *v* reaches out from the side of the frame B opposite the shaft *k*, and of equal

length therewith to receive the end of the brace *g* as it was held by the shaft *k*, above described, when the finger-bar was on that side of the frame.

5 The driving mechanism for the knife-bar operates equally well whichever side of the frame the finger-bar may be, as the end of the bell-crank attached to said knife-bar is caused by the crank *l* to vibrate at equal distances on
10 either side of the center-line of the frame and the pin *e'* of the supporting-arm *b*.

The propelling-handle *D* is attached to the top of the frame, so that it may be reversed or swung over one end or the other of the
15 frame, as the mower is to be propelled in one direction or the other, as above stated.

The bars *p* and *p'*, supporting the ground-wheel *C*, are held to the frame by a double-headed pin or bolt, *u*, upon which they are al-
20 lowed to turn, and a removable bolt, *a'*, also passes through the ends of the said bars and the frame *B*; and to raise or lower the cutting mechanism, so as to cut nearer to or farther from the ground, the bolt *a'* is inserted in one
25 or another of the holes at *o'*, as the case may require.

This mower being made capable of cutting in either direction or on either side, as already stated, renders it very convenient in cutting

around trees, flower-beds, in fence-corners, &c., 30 and it does not have to be "backed up" in cutting short distances, as is the case with mowers which cut in only one direction.

I claim as my invention—

1. In a lawn-mower, the combination of the 35 cutting apparatus consisting of a knife-bar and finger-bar having cutting-teeth on both edges, and adapted to be swung horizontally on a pivot under the frame of the mower, with the operating mechanism consisting of the 40 drive-wheel, the pinion, and crank-shaft, the connecting-rod, and the bell-crank, substantially as and for the purpose set forth.

2. The combination of the finger-bar *a*, pivot-pin *e'*, and brace-rods *h* and *g*, with the cut- 45 ter-bar *c*, bell-crank lever *r*, connecting-rod *t*, crank *l*, pinion *d*, and drive-wheel *f*, substantially as set forth.

3. In combination, the horizontally-reversible finger-bar *a*, formed as described, pivot-pin *e'*, 50 bent bar *b*, brace-rods *h* and *g*, cutter-bar *c*, lever *r*, connecting-rod *t*, crank *l*, pinion *d*, and wheel *f*, the reversible handle *D*, and wheel *C*, substantially as shown and specified.

JOHN J. BERRIGAN.

Witnesses:

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L. C. McCONNELL.